

## **ABSTRACT OF THE DISCLOSURE**

2 A semiconductor apparatus including programmability that may allow a SSTL  
3 interface or LVTTL interface is provided. A reference configuration circuit (100) may  
4 provide a primary reference potential VREF0 and secondary reference potential VREF.  
5 Reference configuration circuit (100) may include a bond pad (PAD1), a reference potential  
6 generation circuit (1), a control circuit (50), a reference selection circuit (60), and a  
7 secondary reference potential generation circuit (70). During a wafer test mode, primary  
8 reference potential VREF0 and secondary reference potential VREF may be provided from a  
9 potential that may be applied to bond pad (PAD1).